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MULTI-LEVEL TRAJECTORY BALLOON SYSTEM DESIGN 18 OCTOBER 1957

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I. INTRODUCTION.

This proposal results from recent discussions with representatives of A description of a technical problem is presented and a program is proposed by It is proposed that a cost-plus-a-fixed-fee contract be negotiated to carry out this research. Reference is made to our company brochure which is on file with procurement people. This brochure provides background data which may be required in contract negotiation.

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II. OBJECTIVE.

The goal of the program proposed is the design and development of a balloon system capable of carrying out multi-level trajectory flights. Elements of the system will include a balloon carrier, an altitude control system, a time programing control, and a termination device. Under this program a system will be designed and components will be built and flight tested. It will not be within the scope of this program to carry out full scale proof tests, or to redesign the development model for production.

It is assumed that the sytem to be designed will have the following performance specifications:

- (1) Duration: 48 hours.
- (2) Altitude Range: 5,000 to 30,000 feet.
- (3) Payload: 100 lbs.

PROGRAM.

Following an initial period of analysis and study, components will be selected or designed for the balloon system. Three sets of equipment will be fabricated and laboratory tests will be made under simulated flight conditions.

Three light-weight plastic balloons will be built and flown to check the performance of the system under operating conditions. It will not be possible under this program to allow the balloons to go to full flight duration. Until the system has been designed, it is not possible to state what effects this limitation will have on the proof of the flight operation. It is possible that flights atl low levels with ballast metering equipment will be required before satisfactory altitude controls can be built. In that case the scope of the present program will have to be enlarged.

Payload elements or ballast may be replaced by measuring device, to study the performance of the balloon system.

In a subsequent program it would be desirable to make long duration flights reproducing the actual flight conditions desired.

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A 3-month period of time will be required to carry out this program of design and development. 25X1

COST DATA. IV. The following cost estimates are provided: \$5940.28 TOTAL

No allowance has been made for the cost of inflation gas which will be required for this program. It has been assumed that such gas will be delivered to the flight center at no cost to the contractor.

For the effective execution of this program, it will be necessary to have the use of radio frequencies assigned from 25X1 Assistance may also be required in negotiating with the CAA to prevent the prohibition of flights carried out at 25X1 the levels of interest.

TERMS AND CONDITIONS. v.

This proposal describes a program of development and operations. proposes to enter into a cost-plus-a-fixedfee contract to supply equipment and services aimed at the execution of this program.

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